

Listing of Claims

1. (previously presented) A neutralizing bispecific fusion protein which binds to two sites on a single gp120 molecule, comprising a first binding domain which binds to an inducing site on the gp120, thereby exposing an induced epitope of the gp120; a second binding domain which binds to and forms a neutralizing complex with the induced epitope of the same gp120; and a linker connecting the first binding domain to the second binding domain, wherein the first binding domain is sCD4, and the second binding domain is SCFv(17b) and wherein the second binding domain is encoded by an amino acid sequence comprising at least 90% sequence identity to residues 244 through 502 of SEQ ID NO: 3.

2-22. (canceled)

23. (previously presented) A protein according to claim 1, wherein the induced epitope comprises at least one coreceptor binding determinant of gp120.

24. (previously presented) A protein according to claim 1, wherein the inducing site is a gp120 CD4 binding site.

25. (previously presented) A protein according to claim 1, wherein the second binding domain binds to at least one coreceptor binding determinant of gp120.

26. (original) A protein according to claim 1, wherein the linker maintains the second binding domain in binding proximity to the induced epitope when the first binding domain is bound to the inducing site.

27. (original) A protein according to claim 26, wherein the linker is substantially flexible.

28. (original) A protein according to claim 26, wherein the linker is 15-100 angstroms (Å) long.

29. (original) A protein according to claim 26, wherein the linker is 10-100 amino acid residues in length.

30. (original) A protein according to claim 26, wherein the linker comprises at least one occurrence of an amino acid sequence as represented by SEQ ID NO: 1.

31. (original) A protein according to claim 1, wherein the linker comprises at least one occurrence of an amino acid sequence represented by SEQ ID NO: 1.

32. (original) A protein according to claim 31, wherein the linker comprises an amino acid sequence represented by SEQ ID NO: 2.

33. (previously presented) The protein according to claim 1, wherein the linker is of a length sufficient to maintain the SCFv(17b) in binding proximity to an SCFv(17b) epitope when sCD4 is bound to gp120.

34. – 36. (canceled)

37. (previously presented) The protein of claim 1, wherein the protein is encoded by a nucleic acid molecule having a sequence as set forth in SEQ ID NO: 4.

38. - 47. (canceled)

48. (previously presented) A composition comprising the protein according to claim 1.

49. - 51. (canceled)

52. (previously presented) A kit for treatment and/or prevention of HIV infection, comprising the pharmaceutical composition of claim 49.

53. (original) The kit of claim 52, further comprising instructions.

54. (original) The kit of claim 53, wherein the instructions include directions for administering at least one dose of the neutralizing bispecific fusion protein to a subject in need of such treatment.

55. (canceled)

56. (previously presented) The protein according to claim 1, wherein the second domain is encoded by an amino acid sequence comprising at least 95% sequence identity to residues 244 through 502 of SEQ ID NO: 3.

57. (previously presented) The protein according to claim 56, wherein the second domain is encoded by an amino acid sequence comprising at least 97% sequence identity to residues 244 through 502 of SEQ ID NO: 3.

58. (previously presented) The protein according to claim 57, wherein the second domain is encoded by an amino acid sequence comprising at least 98% sequence identity to residues 244 through 502 of SEQ ID NO: 3.

59. (previously presented) The protein according to claim 58, wherein the second domain is encoded by an amino acid sequence comprising at least 99% sequence identity to residues 244 through 502 of SEQ ID NO: 3.

60. (previously presented) The protein according to claim 1, having the amino acid sequence as set forth in SEQ ID NO: 3.

61. (new) An isolated nucleic acid molecule encoding the protein according to claim 1.

62. (new) The nucleic acid molecule according to claim 61, wherein the nucleic acid molecule encodes the amino acid sequence as set forth in SEQ ID NO: 3.

63. (new) An isolated nucleic acid molecule encoding the protein according to claim 31.

64. (new) An isolated nucleic acid molecule encoding the protein according to claim 32.

65. (new) An isolated nucleic acid molecule encoding the protein according to claim 37.

66. (new) An isolated nucleic acid molecule encoding the protein according to claim 56.

67. (new) An isolated nucleic acid molecule encoding the protein according to claim 57.

68. (new) An isolated nucleic acid molecule encoding the protein according to claim 58.

69. (new) An isolated nucleic acid molecule encoding the protein according to claim 59.